

Carbon Sequestration FAQs

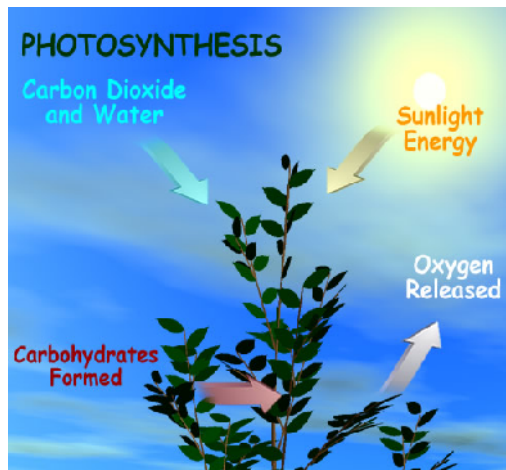
1. Why is it important to store Carbon?

The amount of [carbon dioxide](#) (CO₂) in the air had been relatively constant for 10,000 years until the Industrial Revolution in the 1800s. Since then, the world's population has grown tremendously, as has the use of coal, oil and natural gas. Because CO₂ is a primary product of combustion, the atmospheric concentration of CO₂ has been on the rise. At the same time, average temperatures throughout much of the world have inched up and other climatic changes have been documented, indicating a connection between our use of [fossil fuels](#) and climatic effects.

Although total implications are not known, the majority of the scientific community feels strongly that continued unchecked growth of CO₂ releases into the atmosphere will have very negative effects on our environment. To effectively reduce CO₂ emissions, we must find alternative clean sources of energy as well as encourage the development of "[carbon sinks](#)" where atmospheric carbon is removed from the air and stored such that it will not negatively affect our environment.

2. What is Carbon Sequestration?

The removal of carbon from the atmosphere is the process of carbon sequestration. This can be accomplished by storing atmospheric carbon into the ground, water or into vegetation.



3. How do trees play a role in Carbon Sequestration?

Trees take in CO₂ from the air in the process called photosynthesis. The tree effectively breaks down the CO₂, stores the carbon in all parts of the tree and releases the oxygen back into the atmosphere. Fast-growing trees are, in fact, the most efficient way to sequester atmospheric carbon.

4. What are Carbon Credits and how are they determined?

A "carbon credit" is a market term. Carbon storage in trees is usually measured in carbon dioxide equivalent (CO₂e). Trees are roughly 50 percent carbon, based on dry weight. A carbon credit is equal to one [metric ton](#) of CO₂e. Therefore, the amount of carbon credits on your property can be computed based on a forest inventory cruise of your property to determine the timber volume by weight. Some factors that will affect the amount of carbon sequestered in your forest will be the age of the trees, stocking levels, species and site index of the soil.

5. What things should I consider before signing up? How do I decide if I should participate?

The carbon market has been established in the U.S. but it is in its infancy. There are still many unknowns. Forest landowners should be able to benefit from the increased interest in carbon trading either through direct sequestration or revenue sharing with power generation facilities. The decision to participate in the carbon market will be heavily influenced by factors such as the commitment period required, associated fees (i.e. inventory costs, aggregator commission rates, trading fees, etc.), market access, inventory methods and silvicultural treatments.

Only after careful consideration and consultation with professionals experienced in this subject matter, should a decision to participate be made. You should also fully consider how your short- and long-term management objectives will be impacted from participating.

6. Who buys Carbon Credits?

Currently in the U.S., the [Chicago Climate Exchange](#) (CCX) is the only recognized commodity-based trading market for carbon credits. The commodity traded on the [CCX](#) is a Carbon Financial Instrument contract which represents 100 metric tons of CO₂e. Smaller landowners do not sequester enough carbon on their land to meet this minimum requirement. Therefore, they must sell through an [aggregator](#).

7. How do I choose an Aggregator?

The entire process of finding and signing up forest carbon stocks has taken on a "land rush" mentality. Since the markets are still being developed, every landowner wanting to explore selling their carbon offsets should always remember, "SELLER BEWARE."

If you are looking for an aggregator, or an aggregator contacts you, first and foremost make sure they are registered with the [CCX](#). If they are not, STOP! Do not pass "Go" because you could be entering into a legally-binding agreement with someone who has no access to an operating carbon exchange in the U.S. Once you have verified that you are working with an actual approved [aggregator](#), then read the contract carefully and make sure you feel comfortable with the [aggregator](#). Ask about carbon pool amounts, verification fees and aggregator commission fees.

8. What is the value of a Carbon Credit?

Because this market is voluntary, the value of a carbon credit remains relatively low. If congress passes cap and trade legislation requiring reduced emissions, the value of a carbon credit is expected to increase significantly.

9. What are the requirements? Is there a minimum land ownership requirement?

A forest landowner must manage his forest under a certified sustainable forest program and sign a commitment form to do so for the length of the contract.

Approved certification systems include the [Forest Stewardship Council](#), [American Tree Farm System](#), [Sustainable Forestry Initiative](#), and any other CCX-approved certification system. Most landowners in Kentucky can accomplish this by being certified as an [American Tree Farm](#).

The [American Tree Farm System](#) requires that you own at least 10 acres, have accomplishments in sustainable forest management, be inspected by a registered forester and are recommended for certification.

Further, the amount of credit and contract length will be determined by the type of forest project, and therefore the way carbon is being stored. Those types are:

- Afforestation is the planting of new forests on lands which have not contained forests. Landowners are eligible for the afforestation program if they planted trees after Jan. 1, 1990, on land that did not previously have trees. Under afforestation, the landowner cannot thin or harvest trees on enrolled land.
- Managed Forest Projects are sustainably managed forests such that their growth in carbon stocks exceeds their harvest. Landowners are eligible for the sustainably managed forest program if they follow a certified forest management program. Thinning and harvesting is allowed under the sustainably managed forest, but the landowner must have a net increase of the carbon stored or he/she will be out of compliance.
- Long-Lived Wood Products are harvested wood that has existed for a long period of time and served as a carbon sink.

10. Are there restrictions on my property? Will it affect my management scheme?

The landowner agrees to store carbon in his trees for the period of the contract. That in turn restricts their ability to harvest timber or clear timber land for any other purpose. If the forest stand is at a shelterwood or regeneration harvest stage, it is not recommended that they enter into a carbon project.

He/she can still prescribe burn and conduct other forest management activities during the contract period. After the contract period, they are free to harvest when they choose. Planning for future needs such as food plots and roads becomes very important. Make sure to consider the timing of future thinning and harvest operations prior to signing any contract.

11. How much will I get paid?

The exact amount depends on market conditions at the time of the sale. In December 2007, prices traded under \$2/credit. In April 2008, prices were trading over \$6/credit. Recently in September 2008, prices were back under \$2/credit. As with most transactions, the seller will have to deduct the transaction fees to arrive at the true net income. Landowners are advised to retain all carbon rights in timber harvest contracts.

12. Is there a “hardship rule” for cutting timber or selling the property?

No, this is seen as a voluntary act and could cause the contract to go out of compliance.

13. Do I get paid for my entire acreage? Do I have to deduct for roads, food plots and streams? Who certifies the acreage?

Only forested acres are included in the calculations of carbon credits. The professional forester making the initial evaluation of the property will certify the acreage along with the data taken to determine the carbon credits. This data establishes a baseline for determining increase in net carbon sequestered over the term of the contract.

14. What happens if some or all of my enrolled trees are destroyed by fire, insects or some other natural disaster out of my control?

In case of a natural disaster that destroys all or part of your enrolled trees, your risk is limited to the credits that you have held in reserve. When selling through [CCX](#), they require that 20 percent of your earned credits be held in reserve. Credits remain in reserve for five years after which they are released into the sellable pool of credits.

15. What if I am forced to sell a right of way through a stand of trees? What if part or all of the property is condemned by the government for a road, etc.? What if the mineral rights are executed and the timber is removed?

It would depend on your contract. In most cases, all of these acts would be viewed as voluntary acts and could cause the contract to go out of compliance. The landowner would need to include the cost of satisfying the carbon credits contract in any negotiations involved in the situations mentioned.

16. Is the contract “legally binding”?

Yes, the contract is legally binding and follows the landowner that signed the contract.

17. What happens if I go out of compliance with my contract?

A credit recovery process is required. You will be required to replace all credits earned to-date under the contract. Depending on the reason you are out of compliance, you may use you reserve credits or you may be required to buy credits to replace the shortage.

18. How do I start the process of enrollment?

Most landowners wanting to enroll will need to work with an aggregator. The landowner and aggregator will enter into a contract that specifies all eligibility requirements and terms and conditions for participation.

19. What is the length of time of the contract?

Contract lengths vary between carbon programs; determine the most suitable options to meet your needs. Consider timing of future thinning and harvest operations prior to signing any contract.

20. Can I sell land that I have enrolled in the carbon program?

Under [CCX](#) rules, if an enrolled land is sold to another party, the contract can be transferred to the new landowner. If the new landowner refuses to enter into the contract, the contract will be considered out of compliance. The title of the carbon credits goes with the land, not with the original landowner.

21. Will my enrolled land be subject to an audit?

Once per year, 10 percent of all contracts will be selected for an on-site verification audit. If you are selected, you will be contacted and informed when the on-site verification visit will take place.

22. How does the annual certification work?

Each year, participant landowners will be sent certification forms to be completed and returned to their aggregator. Participants will certify that their enrolled land is still in compliance. If acreage adjustments are needed, those adjustments will be indicated on the certification forms. Also, the participant will report any harvest activity on the certification forms.

If you would like additional information about carbon sequestration, please visit [Mountain Association for Community Economic Development](#) Web site or e-mail forestry@maced.org.

Additional Kentucky carbon aggregator links include:

AgraGate Climate Credits Corporation - <http://www.agragate.com/>

Kentucky Corn Grower's Association - <http://www.kycorn.org/>

Forecon Ecomarket Solutions, LLC - <http://www.foreconinc.com/ecomarket/>